Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for shunting toxic substances, present in a brain ventricle, to the sinus system of an individual suffering from, or at risk of developing, a condition related to the retention and/or accumulation of toxic substances in cerebrospinal fluid (CSF) and/or in brain tissue ~~and/or the CSF space,~~ wherein the toxic substance ~~have entered or~~ will enter the cerebrospinal fluid, said method comprising the steps of

i) providing a shunt system for shunting cerebrospinal fluids comprising toxic substances, ~~such as~~ including one or more of amyloid proteins, A-beta-42, tau, beta-2 microglobulin, APP, neurotrophic factor, glutamate, bioactive ions, alpha-synuclein, mutant alpha-synuclein, soluble oligomers of alpha-synuclein, an antibody and a pathogen, from a brain ventricle to the sinus system of an individual, wherein said shunt system comprises

a) a shunt body allowing fluid communication between a brain ventricle and a part of the sinus system of the individual,

wherein said shunt body comprises a flow restricting component capable of maintaining a passive and essentially constant resistance to flow of cerebrospinal fluids of less than 8 Hg/ml/min through the shunt body, without pressure regulation,

b) a brain ventricle catheter capable of being connected to the shunt body at a first location thereof,
wherein the brain ventricle catheter is capable of draining cerebrospinal fluids from a brain ventricle to the shunt body, and

c) a sinus catheter capable of being connected to the shunt body at a second location thereof,
wherein the sinus catheter is capable of draining to the sinus system of the individual cerebrospinal fluids having been drained from a brain ventricle and passed through the flow restricting component of the shunt body to the sinus catheter,
wherein either all or part of i) the internal or external surface of the shunt body, or either all or part of ii) the internal or external surface of the brain ventricle catheter, or either all or part of iii) the internal or external surface of the sinus catheter, comprises a biocompatible/hemocompatible material comprising an inert surface preventing

biological material from maintaining contact with the inert surface, and/or comprising a hemocompatible surface coated with a plurality of charged species capable of increasing the hemocompatibility of the surface,

ii) inserting into a brain ventricle of the individual the brain ventricle catheter of the shunt system capable of being connected to the shunt body at a first location thereof,

iii) inserting into the sinus system of the individual the sinus catheter of the shunt system capable of being connected to the shunt body at a second location thereof, and

iv) shunting the toxic substances, ~~such as amyloid proteins,~~ present in ~~a brain ventricle~~ the CSF to the sinus system of the individual suffering from, or at risk of developing, a condition related to the retention and/or accumulation of the toxic substances in brain tissue ~~and/or the CSF space~~.

2. (Original) The method of claim 1, wherein the condition related to the retention and/or accumulation of toxic substances in the CSF is Alzheimer's disease.

3. (Previously presented) The method of claim 1, wherein the condition related to the retention and/or accumulation of toxic substances in the CSF is Down's Syndrome.

4. (Previously presented) The method of claim 1, wherein the condition related to the retention and/or accumulation of toxic substances in the CSF is hereditary cerebral hemorrhage with amyloidosis of the Dutch-Type (HCHWA-D).

5. (Previously presented) The method of claim 1, wherein the condition related to the retention and/or accumulation of toxic substances in the CSF is epilepsy.

6. (Previously Presented) The method of claim 1, wherein the condition related to the retention and/or accumulation of toxic substances in the CSF is Parkinson's disease.

7. (Previously Presented) The method of claim 1, wherein the condition related to the retention and/or accumulation of toxic substances in the CSF is a polyneuropathy.

8. (Previously Presented) The method of claim 1, wherein the condition related to the retention and/or accumulation of toxic substances in the CSF is selected from one or more of multiple sclerosis, amyotrophic lateral sclerosis (ALS), myasthenia gravis, muscular dystrophy, dystrophy myotonic or another myotonic syndrome, polymyositis, dermatomyositis, a brain tumor or Guillain-Barre-Syndrome.

9. (Previously Presented) The method of claim 1, wherein the toxic substance is one or more of tau, beta-2 microglobulin or A-beta-42.

10. (Previously Presented) The method of claim 1, wherein the flow restricting component of the shunt body is capable of maintaining a passive and essentially constant resistance to flow of cerebrospinal fluids through the shunt body of a constant value of from 0.1 to less than ~~8~~ 7 mm Hg/ml/min.

11-33 (Cancelled).

34. (Previously presented) The method of claim 1 wherein the flow restricting component of the shunt body is selected from the group consisting of a tubular structure, a plurality of tubular structures, a porous mass, a fibrous mass, a structure being restricted by co-extending fibres arranged

therein, and a structure being restricted by co-extending rods arranged therein.

35. (Currently amended) The method of claim 1 wherein the flow restricting component of the shunt body comprises at least one tubular structure having an internal radius of more than 0.05 mm ~~and preferably less than 0.50 mm~~.

36. (Previously Presented) The method of claim 32, wherein the flow restricting component of the shunt body comprises a single tubular structure having an internal diameter of less than 0.2 mm.

37. (Previously presented) The method of claim 36, wherein the length of the at least one tubular structure of the flow restricting component of the shunt body is in the range of from about 3.0 mm to about 90 mm.

38. (Previously presented) The method of claim 36, wherein the total length of the at least one tubular structure of the flow restricting component of the shunt body is divided in two or more individual segments.

39. (Previously presented) The method of claim 1 comprising the further step(s) of connecting the sinus catheter

to the shunt body at a second location thereof, and/or connecting the brain ventricle catheter to the shunt body at a first location thereof.

40. (Previously presented) The method of claim 1, wherein cerebrospinal fluid is shunted from a brain ventricle to either or both of the two large venous sinuses of the cranium that begin at the bony protuberance on the middle of the inner surface of the occipital bone at the intersection of its bony ridges and terminate at the jugular foramen on either side.

41. (Original) The method of claim 40, wherein the cerebrospinal fluid is shunted from the brain ventricle and to the sagittal sinus.

42. (Original) The method of claim 40, wherein the cerebrospinal fluid is shunted from the brain ventricle and to the transverse sinus.

43. (Previously Presented) The method of claim 1, wherein the shunt body of the shunt system further comprises at least one check valve for preventing cerebrospinal fluid present in the sinus catheter or cerebrospinal fluid having been shunted to the sinus system of the individual from flowing back from the sinus catheter or from the sinus system to the shunt body or to the brain ventricle catheter.

44. (Original) The method of claim 43, wherein the at least one check valve of the shunt body does not have any inherent resistance or opening pressure, and essentially does not exert any resistance on the flow of cerebrospinal fluid from the brain ventricle catheter through the shunt body to the sinus catheter.

45. (Previously pesented) The method of claim 43, wherein the resistance to flow thorugh the shunt body is independent of the at least one check valve and defined solely by the flow resistance of the flow restricting component.

46. (Previously presented) The method of claim 43, wherein the operation of the at least one check valve is independent of a predetermined opening pressure to be overcome by the differential pressure defined by the difference between the intracranial pressure and the pressure in the sinus.

47. (Previously presented) The method of claim 43, wherein the at least one check valve comprises a ball valve and optionally further comprises valve members selected from the group consisting of guided rigid valve members and flexible valve members, including rigid, ring shaped valve members, and flexible valve members such as tongue-shaped laminae.

48-77 (Cancelled).